SANTA ROSA PLAIN GROUNDWATER MANAGEMENT PLAN
Frequently Asked Questions

What is the status of groundwater in the Santa Rosa Plain?

Quantity: Recent studies and computer modeling indicate groundwater pumping in the Santa Rosa Plain watershed has resulted in an imbalance (loss) between the total amount of water flowing into and out of the basin. From 1975 to 2010 the annual loss has been around 3,300 acre feet per year (an acre foot of water is about the volume of a football field filled with one foot of water) which represents only about four percent of the average total amount of groundwater flowing into the basin (recharge). However, because it is cumulative, the relatively small annual loss can lead to declines in groundwater levels and reduced water flows in creeks and streams.

Quality: Many wells in the Santa Rosa Plain produce high quality water, but naturally occurring elements, such as iron, manganese, boron and arsenic, are widely variable in groundwater and can pose problems in some areas. There are also localized areas of organic contaminants from commercial and industrial activities. Areas in southern Santa Rosa Plain also show increasing chloride concentrations.

Find out more about the Santa Rosa Plain Groundwater Management Plan at www.sonomacountywater.org/srgroundwater.

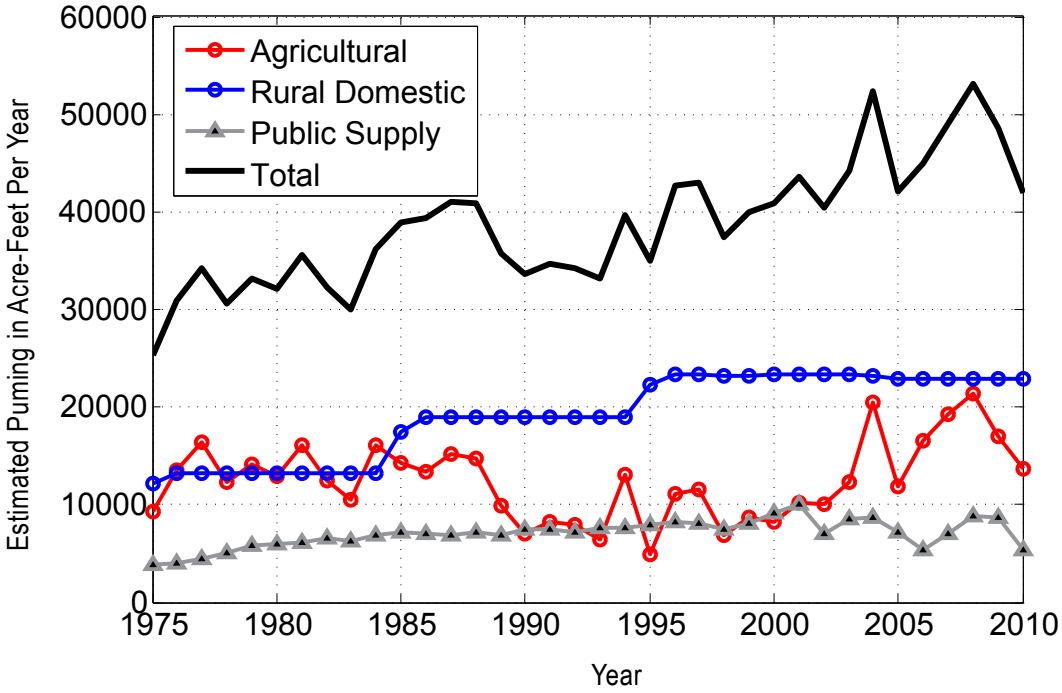
What are the sources of water supply in the Santa Rosa Plain?

When you turn on your tap in the Santa Rosa Plain your water is likely either coming from a municipality (a city or other water provider), or a privately owned well. The water supplied by municipalities is usually a combination of surface water from the Russian River and local groundwater. Russian River water delivered by the Water Agency to many of the municipalities in the Santa Rosa Plain is sourced from outside of the Plan area.

In total (including water from municipalities and water from privately owned wells), it is estimated that a little over half of the water used in the Santa Rosa Plain is local groundwater. The use of recycled water for agricultural and landscape irrigation has also become an important source of water supply in the Plan area and can offset the need to use potable water supplies.

Who uses groundwater in the Santa Rosa Plain, and how is it measured?

A recent US Geological Survey (USGS) study has summarized groundwater use in the Santa Rosa Plain, and produced a computer model that can simulate groundwater flow and estimate surface water and groundwater interactions. The USGS Study categorized groundwater uses as: public supply pumping, rural-domestic pumping, and agricultural pumping. For each category the following summarizes: (1) what uses are included; (2) estimated use; and (3) basis for the estimates.



The graph to the left shows pumping estimates from 1975 to 2010 in the Santa Rosa Plain. The variability over the years can be attributed to numerous factors, including rainfall and available surface water supply, population and land use changes, and shifts in agricultural crops.

Who uses groundwater in the Santa Rosa Plain, continued...

Agricultural Pumping Estimates

1. Agricultural uses of groundwater were determined based on California Department of Water Resources land use mapping data (Groundwater Management Plan, Figure 2-4 Land Use Maps for 1974, 1979, 1986, and 1999) and include all crops identified as irrigated..
2. Between 1976 and 2010, estimated agricultural groundwater demands represented approximately 32% of the total Plan area pumping.
3. Agricultural pumping is typically not measured or reported. Agricultural pumping was estimated by first combining crop distribution and crop water-demand data with precipitation data to estimate the unmet crop water demand, assuming that all of the unmet crop water demand (after rainfall and irrigation with recycled water) was satisfied with groundwater. In addition, the USGS groundwater and surface-water flow model of the Plan Area (GSFLOW) tested the unmet water demand estimate with actual measurements of groundwater levels in agricultural areas to more accurately evaluate the amount of agricultural pumping.

Rural-Domestic Pumping Estimates

1. Includes private residences and small subdivisions and a component of commercial businesses located outside the municipal service areas of the Santa Rosa Plain.
2. Estimated 1975 to 2010 rural domestic groundwater represented approximately 50% of pumping in the Plan Area on average. Approximately 8% of rural-domestic pumping is attributed to small subdivisions and commercial businesses.
3. Private residence pumping typically is not measured nor reported. The private residence pumping is based on U.S. Census Bureau data for the population outside of the municipal service areas. This population total was multiplied by an average annual per-capita water use. The small subdivisions and commercial businesses included in this estimate are based on reports of groundwater use provided to CADPH. Additionally, since 2004, new commercial and industrial projects must monitor and report groundwater levels and use to the Sonoma County Permit and Resources Department if they will rely on wells projected to use over 0.5 AFY.

Public Supply Pumping

1. Includes some Santa Rosa Plain municipalities that use groundwater as a primary or supplemental source for public water supply.
2. The reported 1975 to 2010 public supply groundwater demands represented approximately 18% of pumping in the Plan Area.
3. All pumping for public water supply is metered and reported to the California Department of Public Health (CADPH).

What is a Groundwater Management Plan and what is it supposed to do?

A groundwater management plan provides the overarching strategy for managing groundwater resources within a groundwater basin. To accomplish this, the plan integrates activities that affect the balance between groundwater inflows and outflows within a basin. An effective groundwater management plan integrates groundwater and surface water protection and management with conservation, reuse and enhanced recharge strategies to increase water supply reliability and sustainability. The goal of the Plan for the Santa Rosa Plain is to locally manage and protect groundwater resources through non-regulatory measures to support all beneficial uses, including human, agriculture, and ecosystems in an environmentally sound, economical, and equitable manner for present and future generations.

Why do we need a Management Plan?

Groundwater monitoring and management can proactively prevent future water supply problems, such as declining groundwater levels, dry wells, water quality degradation, falling land surface elevations (land subsidence), reduced water flows in creeks and streams, and a loss of water supply flexibility. In the absence of groundwater management, these problems could lead to legal conflict or regulatory intervention.

Multiple potential benefits to developing and implementing a groundwater management plan include increasing water supply reliability, minimizing adverse impacts to groundwater, enhancing local groundwater resource management, and providing access to state grant funding programs. In some way, all residents of the Santa Rosa Plain rely on a healthy groundwater basin, and a proactive groundwater management plan can help maintain or improve on current conditions for the future.

Who prepared the Plan?

The Plan was developed by a Basin Advisory Panel (Panel) that broadly represents Santa Rosa Plain stakeholders with interests in groundwater within the Plan area. The Panel was formed based on an assessment of community perspectives on groundwater issues by the Center for Collaborative Policy (Center). To be sure all perspectives on groundwater issues were represented in the planning efforts, the Center interviewed 55 individuals representing 37 organizations with an interest in groundwater. The Center recommended forming a Steering Committee, to explore groundwater management planning and appropriate frameworks for the Santa Rosa Plain. Based on this assessment and direction received from the Water Agency's Board of Directors in 2010, the Water Agency convened a Steering Committee to solicit public input on groundwater management planning. In 2010, this effort included six Steering Committee meetings, three public workshops and briefings with over twenty organizations.

Following Steering Committee recommendations, the Panel consists of members representing a variety of interests: residential well users, businesses, agricultural groups, environmental organizations, governmental agencies, tribal groups, natural resource managers, members of the general public and technical experts.

What are the Plan components?

The Panel developed the Plan in accordance with state water code to locally and voluntarily manage Santa Rosa Plain groundwater resources. Thus, the Plan establishes a non-regulatory framework for evaluating groundwater usage and determining its status, and recommends actions that are expected to promote a healthy and stable groundwater basin.

The four main components of the Plan are:

Water Resources
describing water demands and available supplies

Goals & Objectives
for managing the groundwater basin

Management Components
for achieving progress on the goals and objectives

Implementation
prioritizing recommended actions and identifying the schedule and potential funding

How did the Panel prepare the Plan and address technical issues?

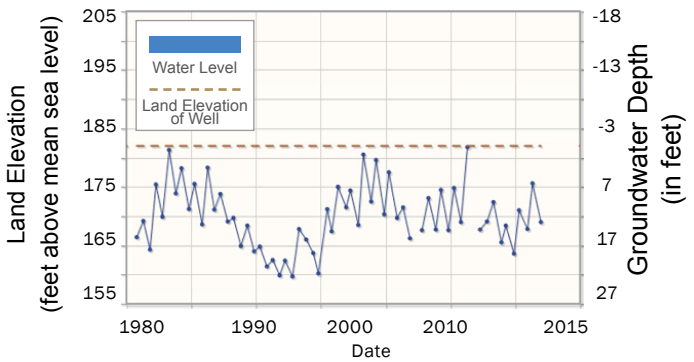
The Panel has been meeting monthly since December 2011, at first to consider whether to develop and how to structure the Plan, and then commencing in October 2012 to oversee development of the Plan with assistance from a Center facilitator, technical consultant, and staff from the Water Agency. An early Panel action was the formation of a Technical Advisory Committee, composed of Panel members and other interested parties with technical expertise to assist with the Plan development. The Technical Advisory Committee has been meeting monthly, with the assistance of a Center facilitator, to prepare technical content of the Plan.

All Plan sections developed by the Technical Advisory Committee are reviewed and must be accepted by the Panel, which is the primary decision-making body for Plan development and implementation. The Panel will continue to meet regularly to implement the Plan and recommend actions with continued input from a Technical Advisory Committee. Panel meetings are open to the public. The meeting schedule is online at *www.scwa.ca.gov/srgroundwater*.

How will the Panel monitor groundwater under the Plan?

Groundwater monitoring in the Santa Rosa Plain for groundwater management can include measurements of groundwater levels, estimates of groundwater pumping, and actual records of pumping. In addition the Plan calls for monitoring the interaction between surface water and groundwater, groundwater quality, and the potential for land surface subsidence.

Sample Groundwater Level Graph



Is groundwater pumping in the Santa Rosa Plain regulated?

Groundwater pumping in the Santa Rosa Plain is not regulated, however depending on its use it may be monitored or reported. The voluntary Plan does not call for groundwater use to be regulated.

How can we offset the annual imbalance of groundwater recharge to pumping?

As has happened in the past, the average negative imbalance of about -3,300 acre feet per year, accumulates year after year and may cause groundwater levels to decline. The Plan looks at numerous options for restoring that balance of water inflows and outflows, from conservation measures that can be implemented at home today, to more large-scale projects that will take a number of years to implement.

Some of these management components include:

Increase Conservation & Efficiency

Water conservation reduces the demand for potable water resources for both surface and groundwater supplies. By fostering water supply sustainability and lessening groundwater withdrawals, water conservation approaches protect groundwater levels, water quality conditions, and ecosystems. Most of these approaches can be implemented at home today.

Increase Water Reuse

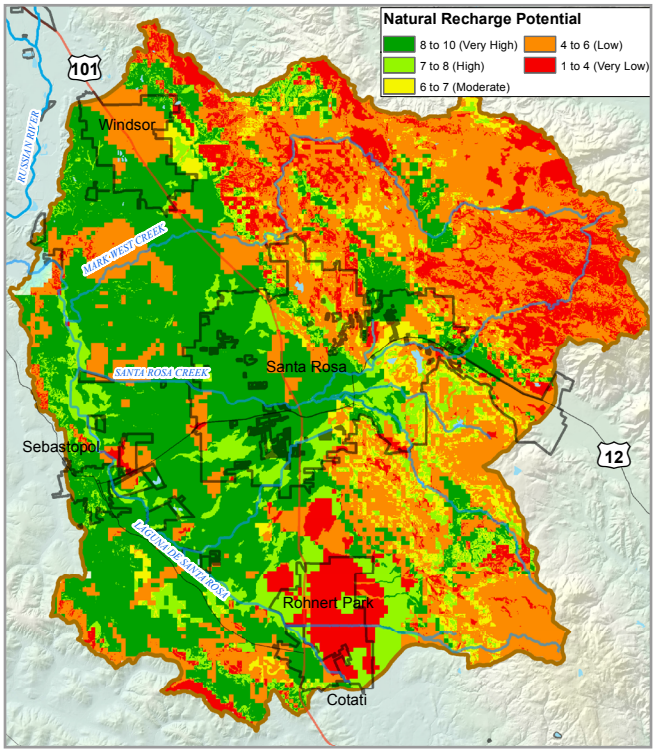
Water reuse within the Plan area could include expanding the use of highly treated municipal wastewater (recycled water) and untreated household gray water beneficially for a variety of non-potable (i.e. not for drinking) applications. When applied under appropriate conditions and following existing regulations, water reuse provides additional water supply for users that can offset some demands on groundwater supplies.

Integrated Groundwater Management

Integrated groundwater management includes identifying and implementing activities, developing strategies, and recommending policies to agencies that recognize the links between groundwater and the broader hydrologic system, comprising climate, rivers, wetlands, and ecosystems. In practice, this means integrating a number of processes and programs to improve linkages and connections, and identify opportunities to increase water supply reliability.

Increase Groundwater Recharge

The Plan seeks to increase groundwater recharge in the Plan area over the long term. Options for groundwater recharge include preserving open-space lands, especially in mapped recharge areas, small-scale projects that encourage slowing, spreading and sinking water on individual parcels, and medium- to large-scale projects that involve diverting captured stormwater into spreading basins over highly permeable soils that allow ponded water to percolate into the ground. The Plan also recommends investigating the possibility for groundwater banking, which involves recharging aquifers with Russian River drinking water during the wet season when surplus surface water is available for storage and subsequent recovery during dry seasons and drier years.



The map above illustrates Relative Recharge Potential in the Santa Rosa Plain Groundwater Management Plan Area.

Why a voluntary plan instead of a regulatory plan?

Early in the Plan development the Panel debated a voluntary vs. regulatory Plan with many different viewpoints. Ultimately, the Panel elected to proceed with a voluntary plan. A voluntary plan was chosen for numerous reasons, including the ability for flexibility to accommodate new information and technology. A voluntary plan avoids some common flaws in regulatory plans, which often lack the flexibility that is needed in a diverse area like the Santa Rosa Plain.

The Plan is a framework for a comprehensive, long-term voluntary groundwater management program. Groundwater level data will be used periodically to evaluate groundwater resources, improve the monitoring program, and decide on water management strategies. Although not a regulatory document, the Plan provides a framework for improving knowledge of groundwater level trends and developing responsive management plans.

As of 2014, the State of California began considering legislation that could change groundwater management. New legislation may allow the state to implement groundwater management in areas that do not proactively manage their groundwater.

Adopting a groundwater management plan that is consistent with the state water code maximizes our chances of retaining local control over the Santa Rosa Basin.

How does the Plan affect future growth in Sonoma County?

Sonoma County's General Plan contains a Water Resources Element that provides for coordination between land use planning and water resource management. Municipalities also develop their own General Plans and Urban Water Management Plans, which help coordinate and establish the correlation between population/land use projections and future water demands. Components of the Plan specifically address improving and expanding this coordination and information sharing to promote well informed planning decisions based on sound science.

Are Tribal operations subject to the same regulations as other users?

Tribal operations are regulated under the Tribal-State Gaming Compact and the National Indian Gaming Commission Record of Decision, which has specific monitoring and reporting requirements. Under the Record of Decision, the Federated Indians of the Graton Rancheria (Tribe) is required to measure groundwater levels within 2 miles of the Graton Rancheria Resort and Casino. The Casino water system is also required to meet all federal water quality standards. The Tribe has developed and is implementing a groundwater monitoring plan and has installed groundwater level measurement technology. The Tribe has shared groundwater level data with the Water Agency to assist in developing the Plan, and will continue to share groundwater level data, when requested, to assist in implementing the Plan.

Are you monitoring for land subsidence?

The Plan calls for the development of a land subsidence monitoring program consisting of basic, periodic benchmark surveying in key areas to develop a long-term record of land surface elevations.

How is the potential impact of recycled water use monitored?

Recycled water in the Santa Rosa Plain that is used for irrigation or other beneficial uses is highly treated to reduce the risk of potential impacts to groundwater quality. The city of Santa Rosa prepared a Salt and Nutrient Management Plan in 2012 as required under the State's Recycled Water Policy of 2009. Salt and Nutrient Management Plans are developed to manage salts, nutrients, and other significant chemical compounds on a watershed and basin-wide basis.

The Plan recommends coordinating with existing monitoring programs such as the Santa Rosa Salt and Nutrient Management Plan to track groundwater quality over time.

What about CEQA?

The adoption of the Santa Rosa Groundwater Management Plan (Plan) is categorically exempt from the California Environmental Quality Act (CEQA). CEQA Guidelines Section 15306, Information Collection, provides, generally, that basic data collection, research, and resource evaluation activities which do not result in serious or major disturbance to an environmental resource are categorically exempt from CEQA. Plan implementation would not result in a serious or major disturbance to an environmental resource and is for information gathering purposes which will help meet the Basin Management Objectives of the Plan.

Guidelines Sections 15307 and 15308, Actions by Regulatory Agencies for Protection of Natural Resources and the Environment, provide that actions taken by regulatory agencies to assure the maintenance, restoration or enhancement of a natural resource and the environment are categorically exempt. The Plan provides a framework to support coordination of public and private groundwater management efforts and protect groundwater resources and to support all beneficial uses, in an environmentally sound, economical, and equitable manner.

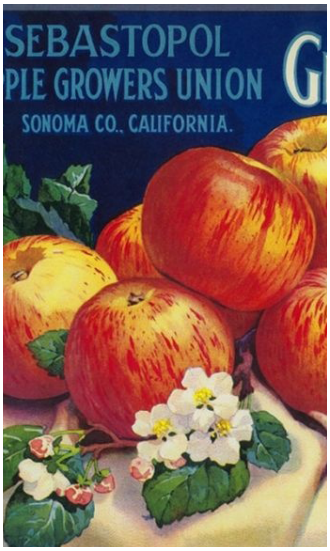
While the adoption of Plan itself is categorically exempt from CEQA, any specific recommendations included in the Plan that promote the undertaking of future projects such as but not limited to construction activities identified in Section 5 of the Plan, would be subject to future evaluation under CEQA.

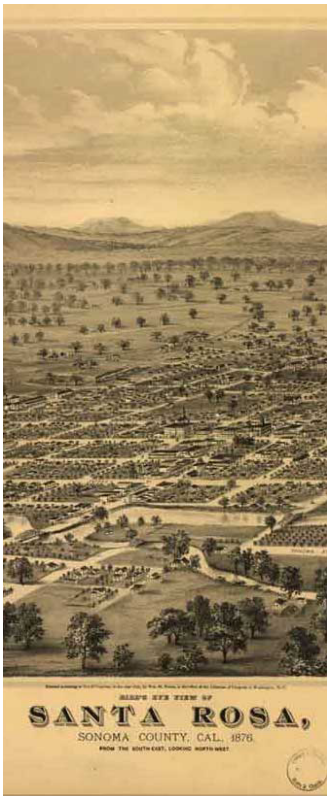
How can I stay informed and involved after the Plan is adopted?

There will be opportunities for public involvement throughout Plan implementation. The Plan recommends strategies to support public engagement, such as: ongoing Panel Meetings (open to the public); briefings to any interested groups or stakeholders upon request; preparation of outreach material such as newsletter blurbs and fliers that stakeholders and members of the community may share with interested parties; website updates with meeting materials and new or relevant information; press outreach for milestones; and targeted well-owner outreach when appropriate or requested. Public participation will be crucial to addressing the Plan goal and many of the Plan objectives, and outreach strategies will be developed to ensure continued engagement and participation of the public through Plan implementation. Some examples include water conservation, voluntary well monitoring, and potential low-impact development strategies such as gray water systems, rainwater harvesting, drought-tolerant lawns, and localized stormwater capture. Any future projects recommended in the Plan that are subject to CEQA will include a public participation process.

For more information, to view a copy of the Plan, or to sign up for periodic email updates at key milestones please visit *www.sonomacountywater.org/srgroundwater*.

Questions? Please contact Marcus Trotta at Marcus.Trotta@scwa.ca.gov.





SANTA ROSA PLAIN GROUNDWATER Management Program